



MATERIAL SAFETY DATA SHEET
Silver Standard Metal Solution

Section 1 - Chemical Product and Company Identification

MSDS Name: Silver Standard Metal Solution
Catalog Numbers: J/8064/05, J/8064/08, J/8064/15, J/8309/05, J/8310/08
Synonyms: None
Company Identification: Fisher Scientific UK
 Bishop Meadow Road, Loughborough
 Leics. LE11 5RG
For information in Europe, call: (01509) 231166
Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#	Hazard Symbols:	Risk Phrases:
7440-22-4	Silver	<1	231-131-3		
7697-37-2	Nitric acid	<10.0	231-714-2		
7732-18-5	Water	Balance	231-791-2		

Text for R-phrases: see Section 16

Hazard Symbols: C



Risk Phrases: 34

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Causes burns. Corrosive.

Potential Health Effects

Eye: Causes severe eye burns. May cause irreversible eye injury.
Skin: Causes skin burns. May cause deep, penetrating ulcers of the skin.
Ingestion: Causes gastrointestinal tract burns. May cause perforation of the digestive tract.
Inhalation: Effects may be delayed. May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.
Chronic: Repeated inhalation may cause chronic bronchitis. Repeated exposure may cause erosion of teeth.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed.
Skin: Get medical aid immediately. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

- Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
- Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician:

Section 5 - Fire Fighting Measures

- General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Use water spray to keep fire-exposed containers cool. Substance is noncombustible.
- Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Section 6 - Accidental Release Measures

- General Information:** Use proper personal protective equipment as indicated in Section 8.
- Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Neutralize spill with sodium bicarbonate. Use water spray to disperse the gas/vapor.

Section 7 - Handling and Storage

- Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not get on skin or in eyes. Do not ingest or inhale. Discard contaminated shoes.
- Storage:** Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

CAS# 7440-22-4:

United Kingdom, WEL - TWA: 0.1 mg/m³ TWA United Kingdom, WEL - STEL: 0.3 mg/m³ STEL
United States OSHA: 0.01 mg/m³ TWA
Belgium - TWA: 0.1 mg/m³ VLE
France - VME: 0.1 mg/m³ VME
Germany: 0.1 mg/m³ TWA (inhalable fraction)
Japan: 0.01 mg/m³ OEL
Malaysia: 0.1 mg/m³ TWA
Netherlands: 0.1 mg/m³ MAC (as Ag)
Russia: 1 mg/m³ TWA
Spain: 0.1 mg/m³ VLA-ED

CAS# 7697-37-2:

United Kingdom, WEL - TWA: 2 ppm TWA; 5.2 mg/m³ TWA United Kingdom, WEL - STEL: 4 ppm STEL; 10 mg/m³ STEL
United States OSHA: 2 ppm TWA; 5 mg/m³ TWA
Belgium - TWA: 2 ppm VLE; 5.3 mg/m³ VLE Belgium - STEL: 4 ppm VLE; 10 mg/m³ VLE
France - VME: 2 ppm VME; 5 mg/m³ VME France - VLE: 4 ppm VLE; 10 mg/m³ VLE
Germany: 2 ppm TWA; 5.2 mg/m³ TWA

Japan: 2 ppm OEL; 5.2 mg/m³ OEL
Malaysia: 2 ppm TWA; 5.2 mg/m³ TWA
Netherlands: 0.5 ppm STEL; 1.3 mg/m³ STEL
Russia: 2 mg/m³ TWA
Spain: 2 ppm VLA-ED; 5.2 mg/m³ VLA-ED Spain: 4 ppm VLA-EC; 10 mg/m³ VLA-EC

CAS# 7732-18-5:

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Color: colorless
Odor: Not available
pH: Not available
Vapor Pressure: Not available
Viscosity: Not available
Boiling Point: Not available
Freezing/Melting Point: Not available
Autoignition Temperature: Not available.
Flash Point: Not available
Explosion Limits: Lower: Not available
Explosion Limits: Upper: Not available
Decomposition Temperature: Not available
Solubility in water: Soluble in water.
Specific Gravity/Density: Not available.
Molecular Formula: Solution
Molecular Weight: 0

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: None reported.

Incompatibilities with Other Materials: Not available

Hazardous Decomposition Products: Nitrogen oxides.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 7440-22-4: VW3500000
CAS# 7697-37-2: QU5775000 QU5900000

CAS# 7732-18-5: ZC0110000

LD50/LC50:

RTECS: Not available. RTECS:

CAS# 7697-37-2: Inhalation, rat: LC50 = 260 mg/m³/30M;

Inhalation, rat: LC50 = 130 mg/m³/4H;

Inhalation, rat: LC50 = 67 ppm(NO₂)/4H;

RTECS:

CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg;

Carcinogenicity:

Silver - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Nitric acid - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other:

See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity:

Not available

Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, NOS	CORROSIVE LIQUID, ACIDIC, INORGANIC, NOS	CORROSIVE LIQUID, ACIDIC, INORGANIC, NOS
Hazard Class:	8	8	8
UN Number:	3264	3264	3264
Packing Group:	III	III	III

USA RQ: CAS# 7440-22-4: 1000 lb final RQ (no reporting of releases of this hazardous substa

USA RQ: CAS# 7697-37-2: 1000 lb final RQ; 454 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases:

R 34 Causes burns.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36 Wear suitable protective clothing.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 7440-22-4: 0

CAS# 7697-37-2: 1

CAS# 7732-18-5: Not available

Canada

CAS# 7440-22-4 is listed on Canada's DSL List

CAS# 7697-37-2 is listed on Canada's DSL List

CAS# 7732-18-5 is listed on Canada's DSL List

US Federal

TSCA

CAS# 7440-22-4 is listed on the TSCA Inventory.

CAS# 7697-37-2 is listed on the TSCA Inventory.

CAS# 7732-18-5 is listed on the TSCA Inventory.

Section 16 - Other Information

Text for R-phrases from Section 2

MSDS Creation Date: 12/12/1997

Revision #3 Date 10/03/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.
